

Notice of Allowability

Application No.

09/691,794

Examiner

Joni Hsu

Applicant(s)

KAMEN ET AL.

Art Unit

2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to papers received February 10, 2006.
2. ☒ The allowed claim(s) is/are 1, 2 and 9-13.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 10, 2006 has been entered.

Response to Amendment

2. Applicant's arguments, see pages 5-6, filed February 10, 2006, with respect to Claims 1, 2, and 9-13 have been fully considered and are persuasive. The 35 U.S.C. 103(a) rejections of Claims 1, 2, and 9-13 has been withdrawn.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

4. Authorization for this examiner's amendment was given in a telephone interview with Todd S. Parkhurst on April 18, 2006.

5. The application has been amended as follows:

Claim 9 has been amended to depend from Claim 1 instead of Claim 7.

Allowable Subject Matter

6. Claims 1, 2, and 9-13 are allowed.

The following is an examiner's statement of reasons for allowance:

7. The prior art taken singly or in combination do not teach or suggest a method comprising searching for types of memories in a set-top box; dividing a set of texture maps into at least two groups if the total size of the set of texture maps is larger than a first memory size, such that the total size of the texture maps in a first group is the largest possible sum of texture map sizes for which the total size of texture maps is less than the first memory size and the second group is the difference between the total size of the set of texture maps and the total size of the first group, storing the second group of texture maps in a second memory, and **compressing the second group of texture maps to fit into the first memory if sufficient second memory is not available**, as recited in Claims 1 and 10. Claims 2, 9, and 11-13 depend from these claims, and therefore also contain allowable subject matter.

8. The closest prior art (Wishoff US006300962B1) teaches a system comprising a memory analyzer (50, Figure 2) for analyzing set-top box layout (*video memory management in a set-top box*, Col. 1, lines 9-12) to allocate memory (Col. 2, lines 59-65) by specifying the size of the

memory needed (Col. 3, lines 33-37) and determining if a sufficient amount of memory is available (Col. 4, lines 17-22; Col. 6, lines 3-7). Therefore, the memory analyzer determines sizes of memory available in the set-top box, the memory analyzer being coupled to a memory distributor (104, Figure 3), wherein the system determines a storage size necessary for storing the texture maps defining one or more images and the memory distributor distributes the texture maps defining one or more images (*specifies the size of the memory needed, video memory allocator*, Col. 3, lines 34-63). According to the disclosure of this application, digital images, or video images, are considered to be texture maps (page 12, line 20). Wishoff describes that first, the memory manager allocates available contiguous video memory (235, Figure 6; Col. 6, lines 2-7). If the total size of the set of texture maps is larger than the memory size (238, 242; Col. 6, lines 25-35), or greater than the available contiguous video memory, then the memory manager reallocates the video memory into non-contiguous video memory, so it divides the set of texture maps into at least two groups. Wishoff describes a best fit memory allocation scheme, which involves finding the piece of memory closest to the size of the allocation request (237, Figure 6; Col. 6, lines 14-24). Therefore, the memory distributor distributes the texture maps to a preferred first memory, which is the available contiguous memory, if the total size of the texture maps is less than or equal to the available first memory size, and the total size of the texture maps in the first group is the largest possible sum of texture map sizes for which the total size of texture maps in the first group is less than the memory size. The second group's total size is the difference between the total size of the set of texture maps and the total size of the first group. However, Wishoff does not teach compressing the set of texture maps of the second group to fit into the first memory if sufficient second memory is not available.

9. Another prior art (Hicok US006266753B1) teaches dynamic load balancing between local media memory (410, Figure 4) and system memory (420) (Col. 3, line 60-Col. 4, line 11). Dynamic load balancing may occur if local memory becomes full or is near full. Data may be re-allocated to the system memory (Col. 7, lines 31-40). Therefore, Hicok discloses determining types of memory available. However, Hicok does not teach compressing the set of texture maps of the second group to fit into the first memory if sufficient second memory is not available.

10. Another prior art (Kenworthy US005852443A) teaches the use of a set-top box (Col. 6, lines 10-15) and that the set of texture maps are compressed to fit into one memory (216, Figure 4A; Col. 9, lines 36-39; Col. 12, lines 8-13). However, Kenworthy does not teach compressing the set of texture maps of the second group to fit into the first memory if sufficient second memory is not available.

11. Another prior art (Behrbaum US006326973B1) describes shifting as much texture data as possible from local graphic memory (first memory) to system memory (second memory) (Col. 4, lines 5-34). However, Behrbaum does not teach compressing the set of texture maps of the second group to fit into the first memory if sufficient second memory is not available.

12. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art of Record

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Wishoff (US006300962B1) teaches computer video memory management in a set-top box television environment (Col. 1, lines 9-12).
2. Hicok (US006266753B1) teaches dynamic load balancing between local media memory and system memory (Col. 4, lines 9-11).
3. Kenworthy (US005852443A) teaches reducing memory used to perform pixel processing in a graphics rendering system (Col. 1, lines 13-16).
4. Behrbaum (US006326973B1) teaches allocating AGP/GART memory from the system memory local to the AGP device (Col. 1, lines 27-31).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joni Hsu whose telephone number is 571-272-7785. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JH


JEKA CHAUHAN
SUPERVISORY PATENT EXAMINER